

## THE BBB PROCESS: BIOMASS TO BIOFUELS AND BIOPRODUCTS MAIN FACTS AND STRUCTURAL FEATURES

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The 19<sup>th</sup> century has been the one of coal, the 20<sup>th</sup> century was the one of oil with a major drawback: the massive discharge of carbon dioxide in the atmosphere.

Everybody agrees today to say that the 21<sup>th</sup> century will be the one of the biomass if the lignocellulosic part of biomass found a development at the scale of this annual resource which is worldwide around 7-8 billion tons. It is indeed the support of the food part of plants as straw for cereals and bagasse for sugar cane, wood residues from forests.

It is thus fatal products of the agriculture without competition with the food sector, available annually in quantities close to that oil extracted worldwide without changing anything in the current agricultural production. Massive research investments have been made in USA, Europe and Asia during the last thirty years without real industrial achievements.

We have solved this worldwide challenge and found how to refine properly the lignocellulosic part of biomass through a simple separation without degradation of its 3 main components: cellulose, hemicelluloses and lignins: the BBB process – Biomass to Biofuels and Bioproducts - 12 papers and 8 patents on this clean process are posted on [www.cimv.fr](http://www.cimv.fr).

I present here the main features of our technology.

Rice, wheat, barley corn straws, sugar cane or sweet sorghum bagasses, hardwoods, switchgrass etc.. are very suitable with our process for biofuels and bioproducts:

-Cellulose for printing paper and glucose production for bioethanol and bioproducts

-Xylose can be use for biofuels and chemicals like furfural and derivatives

-Biolignin™ is the flagship product as efficient biofuel or new well defined oligomer for the chemical industry as phenolic natural polymer base of phenolic resins, glues for particle board, plywood, OSB or carbon black substitutes in elastomeric compounds.

We have validated the technology at industrial scale with our pilot plant and start the construction of the first industrial CIMV biorefinery designed to treat wheat, corn or barley straw in 2013.